December 2005 Update

Ellsworth Air Force Base (EAFB) Superfund Site
Meade and Pennington Counties, South Dakota
(5-Year Review Date: 9/23/2005)

Highlights Since the 2005 Review

- **Biodechlorination methods being analyzed including permeable reactive barriers and biowall technologies**

Brief Site History: EAFB is a U.S. Air Force Air Combat Command base six miles east of Rapid City, South Dakota. It is next to the town of Box Elder. EAFB covers about 4,858 acres in Meade and Pennington Counties. The base includes runways, airfield operations, industrial areas, as well as housing and recreational facilities. EAFB is surrounded by rural farm land, an increasing number of private homes and light commercial activities.

Studies to identify hazardous substances were conducted in 12 Operable Units (OUs) of EAFB, including landfills, a fire protection training area, spill sites, industrial areas, an explosive-ordnance disposal area and the base-wide ground water. The hazardous substances found most often on the Base are solvents and jet fuels, located in both soils and groundwater.

Military activities for 50 years left soils contamination and contaminated ground water plumes both inside and outside of the base boundaries.. The Environmental Protection Agency (EPA) added EAFB to its National Priorities List on August 30, 1990. The Air Force, EPA and the State of South Dakota have worked as partners to clean up EAFB.

Cleanup Activities Completed: The Air Force installed remediation systems to address possible future health risks. Construction of remediation systems is complete at all contaminated areas and the systems are functioning as planned. The cleanup (remedies) include ground water pump-and-treat systems, landfill covers, soil treatment systems, excavation activities, monitored natural attenuation (lessening) and institutional controls

Current Status: Currently, the site is in the Operation & Maintenance phase. Contaminated ground water is pumped out of the ground and cleaned up to drinking water standards. The treated water is then either discharged to a local drainage, to EAFB wastewater-treatment plant or re-injected into the ground. A ground water pump and treat system on the east boundary of the base has stopped the re-charging of the TCE contaminated plume that flows approximately five miles off base. A gap in the plume beginning at the east boundary is now evident. Originally it was anticipated that it would take 20 – 30 years to complete the clean-up of this plume but now it is thought that it may be 10 years or less. The groundwater component of all site OUs was recently consolidated into a single OU 11, thus expediting partial site deletions and possible redevelopment of these areas as long as the integrity of the remedy is maintained.

Summary of Protectiveness: All OUs are currently protective of human health and the environment.

Issues Impacting Protectiveness: Issues were noted during the 2005 Five-Year Review. The following table summarizes the status of the follow-up actions addressing these issues.

Ellsworth Air Force Base Superfund Site
Five-Year Review Update Table
(Review Date 9/23/2005)

Issues	Recommendations/Follow-up Actions	Follow-up Actions (Status/Due Date)	Status of Follow-up Actions 12/05	Responsible Party
1. OU1 Well installation	Consideration is being given to increasing the number of SVE points and installing additional groundwater extraction wells.	The Site Environmental Team is investigating.	Additional monitoring wells have been installed to evaluate the extent of free product and optimization is being considered.	Regional Project Manager (RPM) Group
2. TCE groundwater contamination	TCE detected in OU2, South Docks area, hot spot in Pride Hangar. Continue to pump and treat.	Active search for non-energetic technologies alternatives to help reduce contaminants to below drinking water standards.	Biodechlorination methods being analyzed including permeable reactive barriers and biowall technologies.	RPM Group
3. OU12 monitoring and evaluation.	Possible remedial action required.	Plans for monitoring of up-gradient areas being developed.	Investigation of this area is in progress.	RPM Group
4. Completion of ST-23 area monitoring/ evaluation needed.	Work with contractor to include these in site environmental plans	Talks to be completed by 9/06.	Talks are still in progress on how to proceed.	RPM Group
5. Locate source areas.	Continue to identify and address the source of TCE contaminants in the area.	Address new source areas in-situ, SVE or by removal.	Currently in progress.	RPM Group

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